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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,795	07/20/2006	Arnd Reichert	2003P15116WOUS	3119

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SIEMENS CORPORATION  
INTELLECTUAL PROPERTY DEPARTMENT  
170 WOOD AVENUE SOUTH  
ISELIN, NJ 08830

EXAMINER
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NGUYEN, NINH H

ART UNIT	PAPER NUMBER
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3745

MAIL DATE	DELIVERY MODE
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10/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,795	<b>Applicant(s)</b> REICHERT ET AL.	
	<b>Examiner</b> Ninh H. Nguyen	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 10-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-23 is/are rejected.
- 7) ☒ Claim(s) 15,22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/20/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-14, 16-21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (4,371,311) in view of Reichert et al. (US 2002/0009361).

Walsh discloses a turbomachine (Figs. 1-4), comprising: axially expandable rotor (Fig. 4); an annular duct 22 between an outer guide surface 26 fastened to an external wall and an inner guide surface 28 arranged on the rotor; an annular flow duct narrowing in an axial direction and formed by a working medium flowing through the annular duct; a guide-blade ring formed from a guide blade 32 having a guide profile extending between a platform of the guide blade arranged in the annular duct and an end of the guide blade exposed into the working medium; a moving-blade ring formed from a moving blade 36 having a moving profile extending between a platform of the moving blade fastened to the rotor and an end of the moving blade exposed into the working medium; a first radial gap  $C_R$  located in a first axial section formed between the outer guide surface 26 and the exposed end of the moving blade 36; and a second radial gap located in a second axial section which is opposite to the first axial section formed between the inner guide surface 28 and the exposed end of the guide blade 32, wherein the first and second radial gaps are parallel to a rotation axis of the rotor and a size of the radial gaps is inherently constant if there is an axial displacement of the rotor (base on Fig. 4);

Art Unit: 3745

wherein the outer guide surface 26 is formed partly by a top side of the platform of the guide blade 32, the top side: facing the guide profile, and inclined in the axial direction so that the flow duct narrows in the axial direction (Fig. 4);

wherein the inner guide surface 28 is formed partly by a top side of the platform of the moving blades 36, the top side: facing the moving profile, and inclined in the axial direction so that the flow duct narrows in the axial direction (Fig. 4);

wherein in the first axial section the outer guide surface 26 is cylindrical and the inner guide surface 28 is conically inclined relative to the rotation axis (Fig. 4), wherein in the second axial section the inner guide surface 28 is cylindrical and the outer guide surface 26 is conically inclined relative to the rotation axis, and wherein the first and second axial sections are arranged alternatively in the axial direction (Fig. 4);

wherein a guide ring is configured by an axial section of the outer guide surface 26 and is parallel to the rotation axis of the rotor (Fig. 4);

wherein the turbomachine is an axial-flow compressor of a gas turbine (abstract).

However, Walsh does not disclose the rotor is axially displaceable as claimed.

Reichert teaches a turbine having a conical inner wall 21 (Figs. 1, 6), a plurality of rotor blades each having a blade tip facing the conical inner wall with the same conicity as that of the inner wall and forming a radial gap therebetween, and a displaceable rotor 2 for adjusting the radial gap for reducing flow losses thereat during operation of the turbine and subsequently improving turbine efficiency (paragraphs [0016], [0030], and [0031]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the turbomachine of Walsh with an axially displaceable rotor of

Art Unit: 3745

Reichert for the purpose of adjusting the first and second radial gaps to reduce gap losses during operation of the turbine as taught by Reichert.

***Allowable Subject Matter***

3. Claims 15 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 2 patents.

Davis et al. (3,775,023) and Hemsworth (4,606,699) are cited to show different compressors having conical outer walls.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

Art Unit: 3745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).

**/Ninh H. Nguyen/  
Primary Examiner, Art Unit 3745**

Nhn  
10/15/08